

CLAIMS

What is claimed is:

Claims
1 1/1
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3 MFP

1. A lead routing module for routing one or more signals between two devices in a suspension assembly, comprising:
4 a nonconducting body;
5 a first set of electrical contact regions positioned on said nonconducting body;
6 a second set of electrical contact regions positioned on said nonconducting body; and
7 a plurality of conducting leads coupled between said first and second sets of electrical contact regions for routing said signals between said first and said second sets of electrical contact regions.

1 2. The lead routing module of claim 1, further comprising
2 an upper conductive central region positioned on a top surface of
3 said nonconducting body, said upper conductive central region
4 having a plurality of conductive bumps extending above said top
5 surface of said nonconducting body.

1 3. The lead routing module of claim 2, further comprising
2 a lower conductive region positioned on a bottom surface of said
3 nonconducting body.

1 4. The lead routing module of claim 2, wherein one or more
2 of said plurality of bumps extends approximately 30 to 50 microns
3 above said top surface of said nonconducting body.

1 5. The lead routing module of claim 3, wherein said lower
2 conductive region is a conductive plate that extends over
3 substantially all of said lower surface of said nonconducting
4 body.

1 6. The lead routing module of claim 1, wherein at least
2 one of said first and second sets of electrical contact regions
3 represents a plurality of bonding pads.

1 7. The lead routing module of claim 3, further comprising
2 a grounding electrode coupled between said upper conductive
3 central region and said lower conductive region.

1 8. The lead routing module of claim 7, wherein said
2 grounding electrode is a via hole.

1 9. The lead routing module of claim 7, wherein said
2 grounding electrode is a side-wrapping electrode.

1 10. The lead routing module of claim 1, wherein said first
2 set of electrical contact regions is formed on a first surface of
3 said nonconducting body and said second set of electrical contact
4 regions are formed on a second surface of said nonconducting
5 body, wherein said first and second surfaces are adjacent
6 surfaces.

1 11. The lead routing module of claim 1, wherein said first
2 set of electrical contact regions are formed on a first surface
3 of said nonconducting body and said second set of electrical
4 contact regions are formed on a second surface of said
5 nonconducting body, wherein said first and second surfaces are
6 non-adjacent surfaces.

1 12. The lead routing module of claim 1, wherein at least
2 one of said first and second sets of electrical contact regions
3 is located on an upper surface of said nonconducting body.

1 13. The lead routing module of claim 1, wherein at least
2 one of said first and second sets of electrical conductive
3 regions is located on a side surface of said nonconducting body.

1 *Sus* 14. A suspension assembly comprising:
2 *Al* a slider/head assembly;
3 a suspension; and
4 an interconnect module coupled between said suspension and
5 said slider/head assembly to route one or more data signals
6 between said suspension and said slider/head assembly.

1 15. The suspension assembly of claim 14, wherein said
2 suspension is an integrated lead suspension.

1 16. The suspension assembly of claim 14, wherein said
2 suspension is configured for in-line mounting of said slider/head
3 assembly.

1 *Sub A* 17. The suspension assembly of claim 16, wherein said
2 slider/head assembly is orthogonally mounted onto said
3 suspension.

1 18. A suspension assembly comprising:
2 a slider/head assembly;
3 a suspension;
4 a microactuator; and
5 an interconnect module coupled between said suspension and
6 said microactuator to route one or more data signals between said
7 suspension and said microactuator.

1 19. The suspension assembly of claim 18, wherein said
2 suspension is an integrated lead suspension.

1 20. The suspension assembly of claim 18, wherein said
2 suspension includes a first set of termination leads coupled to
3 said slider/head assembly and a second set of termination leads
4 coupled to said interconnect module.

1 21. An assembly, comprising:
2 a first device;
3 a second device; and
4 an interconnect device coupled between said first and second
5 devices to route one or more signals between said first and
6 second devices.

1 22. The assembly of claim 21, wherein said first device is
2 a slider/head assembly and said second device is a suspension.

1 23. The assembly of claim 21, wherein said first device is
2 a microactuator and said second device is a suspension.

1 Sub A3 24. A storage device, comprising:
2 a disk;
3 a spindle motor positioned to support and rotate said disk;
4 a suspension assembly including an interconnect module
5 coupled between a slider/head assembly and a suspension to route
6 one or more data signals between said suspension and said
7 slider/head assembly; and

8 an actuator coupled to said suspension assembly and operable
9 to position said suspension assembly above said disk to access
10 said disk for reading and/or writing operations.

1 25. The storage device of claim 24, wherein said suspension
2 is an integrated lead suspension.

1 26. The storage device of claim 24, wherein said suspension
2 is configured for in-line mounting of said slider/head assembly.

1  27. A test system for disks, comprising:
2 a spindle motor for rotating a disk during a test operation;
3 and
4 a test platform including a suspension assembly coupled to
5 an actuator, said actuator operable to position said suspension
6 assembly above said disk to access said disk for said test
7 operation, said suspension assembly including an interconnect
8 module coupled between a slider/head assembly and a suspension to
9 route one or more data signals between said suspension and said
10 slider/head assembly.

1 28. The test system of claim 27, wherein said suspension is
2 an integrated lead suspension.

1 29. The test system of claim 27, wherein said suspension is
2 configured for in-line mounting of said slider/head assembly.

1 *but* 30. The test system of claim 29, wherein said slider/head
2 assembly is orthogonally mounted on said suspension.

1 31. A storage device, comprising:

2 a disk;

3 a spindle motor positioned to support and rotate said disk;

4 a suspension assembly including an interconnect module

5 coupled between a suspension and a microactuator to route data

6 signals between said suspension and said microactuator; and

7 an actuator coupled to said suspension assembly and operable

8 to position said suspension assembly above said disk to access

9 said disk for reading and/or writing operations.

1 32. The storage device of claim 31, wherein said suspension
2 is an integrated lead suspension.

1 33. The storage device of claim 31, wherein said suspension

2 is configured for in-line mounting of said slider/head assembly.

1 34. A test system for disks, comprising:

2 a spindle motor for rotating a disk during a test operation;

3 and

4 a test platform including a suspension assembly coupled to

5 an actuator, said actuator operable to position said suspension

6 assembly above said disk to access said disk for said test

7 operation, said suspension assembly including an interconnect

8 module coupled between a suspension and a microactuator to route

9 data signals between said suspension and said microactuator.

1 35. The test system of claim 34, wherein said suspension is

2 an integrated lead suspension.

1 36. The test system of claim 34, wherein said suspension is

2 configured for in-line mounting of said slider/head assembly.

1 37. The test system of claim 36, wherein said slider/head

2 assembly is orthogonally mounted onto said suspension.